Keval Morabia

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EDUCATION

University of Illinois at Urbana-Champaign   Urbana, IL
Masters degree in Computer Science (GPA: 4/4) with specialization in Artificial Intelligence   Aug 2019 - Dec 2020
- **Coursework:** Computer Vision, Advanced Information Retrieval, Machine Learning in NLP, Building Autonomous Vehicles
- **Teaching Experience:** Natural Language Processing, Discrete Structures

Birla Institute of Technology and Science (BITS), Pilani   Hyderabad, India
Bachelor of Engineering (Hons.) in Computer Science (GPA: 9.72/10)   Aug 2015 - May 2019

EXPERIENCE

Amazon Web Services (AWS)   Greater Seattle Area, WA
Software Development Engineer Intern   May 2020 - Aug 2020
- Deployed **Java APIs** to **AWS** cloud for providing preview of tasks to be performed by technicians in Amazon data centers
- Analyzed complex BPMN Workflows extracted from **Amazon Dynamo DB** to identify expected order of task execution
- Tested code with Unit, Integration and Load testing using **JUnit**, **Mockito**, and **TestNG**

University of Illinois at Urbana-Champaign   Urbana, IL
Research Assistant with Prof. Kevin Chang   Aug 2019 - May 2020
- Experimented a **Visual Attention-based Model** in **PyTorch** for our novel Webpage Object Detection formulation
- Utilized contextual information using visual features of ordered web elements extracted using **Resnet18**
- Created **largest public labeled dataset of 7.7k product webpage screenshots**
- Achieved **95%** accuracy for product Price detection (**8.5%** above **Fast-RCNN**) and interpreted Attention Visualizations

Microsoft Research   Bengaluru, India
Research Intern   Jan 2019 - Jul 2019
- Implemented **Graph RNNs** in **TensorFlow** to **Learn Embeddings** for **300k** entities in a heterogeneous graph
- Collaborated with a **team of 10** to design a novel Deep Neural Net architecture for **recommending messages** in MSTeams
- Outperformed **Graph Convolutional Networks** on **5** benchmark datasets for rating prediction and ranking tasks

BITS Pilani   Hyderabad, India
Research Assistant   Jan 2018 - Dec 2018
- Analyzed **Twitter Stream** for **Event Detection** and achieved a precision of **88.1%** (absolute improvement of **8%**)
- Segmented tweets and hash-tags; applied Jarvis-Patrick clustering; summarized newsworthy events

PUBLICATIONS

Morabia, K., Bhanu Murthy, N. L., Malapati, A., & Samant, S. (**2019**, June). SEDTWik: Segmentation-based Event Detection from Tweets using Wikipedia. In Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**): Student Research Workshop (pp. 77-85) [**Paper**] [**Code**]

PROJECT HIGHLIGHTS

Building an Autonomous Vehicle   Sep 2020 - Nov 2020
- Collaborated in a **team of 6** to control a Polaris GEM e2 Autonomous Vehicle containing a LiDAR, Radar, and camera
- Programmed WASD keyboard keys to accelerate and steer vehicle using a **PID controller** and **ROS** Python commands
- Deployed pre-trained **YOLOv3** to stop vehicle on detecting a pedestrian

Attention-based Joint Detection of Object and Semantic Part [arXiv:2007.02419] [Code]   Feb 2020 - May 2020
- Implemented a **PyTorch** model for simultaneous Object and Part detection by combining 2 **Faster-RCNN** models
- Applied a novel **Attention-based feature fusion** to learn enhanced representation for Object and Part proposals
- Improved **mean Average Precision** for Objects and Parts on **PASCAL-Part dataset**

SKILLS

- **Programming:** Python, Java, C, C++, LaTex, SQL, HTML, CSS, JavaScript
- **Other Technologies:** PyTorch, TensorFlow, AWS, Scikit-learn, GIT, Flutter, Android Studio, JUnit, Mockito

LEADERSHIP AND HONORS

- Awarded **Merit Scholarship** (**Top 1%** out of **700** students at BITS Pilani, Hyderabad)   Aug 2015 - May 2019
- Organized cultural dance events as **President** of **150**-membered Gujarati Association - BITS Pilani,   Jul 2017 - May 2018
Hyderabad; attended by over **1000** students; raised **INR 30k** fund